



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/783,375	02/14/2001	Douglas Michael Johnescu	BERG-2572/C2685	2317

7590

01/15/2003

Jonathan M. Waldman  
Woodcock Washburn Kurtz  
Mackiewicz & Norris LLP  
One Liberty Place - 46th Floor  
Philadelphia, PA 19103

EXAMINER

TSUKERMAN, LARISA Z

ART UNIT

PAPER NUMBER

2833

DATE MAILED: 01/15/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/783,375

Applicant(s)

JOHNESCU, DOUGLAS MICHAEL

Examiner

Larisa Z Tsukerman

Art Unit

2833

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 September 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 and 15-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 15-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 25-09-02 is: a) ☐ approved b) ☒ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Specification*

**Disclosure** is objected to because of the following informalities: a mounting portion (Claim 1) does not define or shown in specification or drawings. Appropriate correction is required.

### *Drawings*

The drawings are objected to because in Fig. 6 reference numeral 117 wrongly shows a partial wall not an opening, as described in Specification on page 5, line 12. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Objections*

**Claim 1** is objected to under 37 C.F.R. Rule 1.75(d)(1).

In regard to claim 1, the terms and the phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description. In particular, the limitations "a mounting portion" does not define or shown in the specification or drawings. Also it is not clear how "a mounting portion" and "a mounting tab" are distinguished? Correction is required.

**Claims 25 and 34** are objected to because of the following informalities:

Regarding claim 25, on line 4, "elements" should be – element -. Appropriate correction is required,

***Claim Rejections - 35 USC § 102***

**I)** The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

**Claims 1, 3- 5, 9, 11- 15** are rejected under 35 U.S.C. 102(e) as being anticipated by Suzuki (5891591). Suzuki discloses a connector comprising:  
a housing 10 having channels 11 (see Fig. 2 and Col. 2, lines 3-4), a retention structure 11a having engaging portions (shoulders or projections, Col. 2, lines 25-29), alignment posts 12 (Col.2, lines 19-22, and Fig. 3), and a plurality of openings 11b defined therein and extending through the housing;  
a plurality of contacts 20, oriented in the same directions (see Fig. 1 and 3), extending through the housing, each contact including a medial section 21 having a form of a tapered cantilever beam (see Fig. 2), a mounting portion 22-22a comprising a mounting

Art Unit: 2833

tab 22a extending through a respective one of the openings and the housing engaging the mounting tab so that the contact is retained by the housing, a compressive mating portion 21a having a distal end (a portion comprising a projection 21b, see Fig.2) and flanked by a tab (not labeled, a part of the contact between 21a and 21b, Fig. 2) with a projection 21b, and a bend 23, and the retention structure of the housing engages the distal end of the compressive mating portion of the contacts to preload the contacts (see Col. 2, lines 24-29).

II) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claim 1** is rejected under 35 U.S.C. 102(b) as being anticipated by Cruise et al.

(5259769). **Cruise** discloses a housing 14 having a retention structure 66 and plurality of openings (grooves, see Col. 3, line 62) 52 defined therein and extending through the housing,

Plurality of contacts 16 extending through the housing, each contact including a medial section 76-78, a mounting portion (not labeled) with a mounting tab (solder tail) 50, the mounting tab extending through a respective one of the openings and the housing engaging the mounting tab so that the contact is retained by the housing, and a compressive mating portion 92 having a distal end 80, wherein the retention structure of the housing engages the distal end of the contact to preload the contacts (Col.5, lines 10-20).

**Claim 25** is rejected under 35 U.S.C. 102(b) as being anticipated by Grabbe et al. (4354729). Grabbe includes a method of making an electrical connector 18 comprising the steps of:

providing a housing 20, inserting a plurality of compression contacts 2 into the housing, securing a fusible elements (not labeled, see Fig. 3) to each of the contacts, and preloading the contacts (see Abstract, lines 16-18).

**Claims 25-28, 30 and 32** are rejected under 35 U.S.C. 102(b) as being anticipated by Kwiat et al. (5746626). Kwiat includes a method of making an electrical connector 10 comprising the steps of:

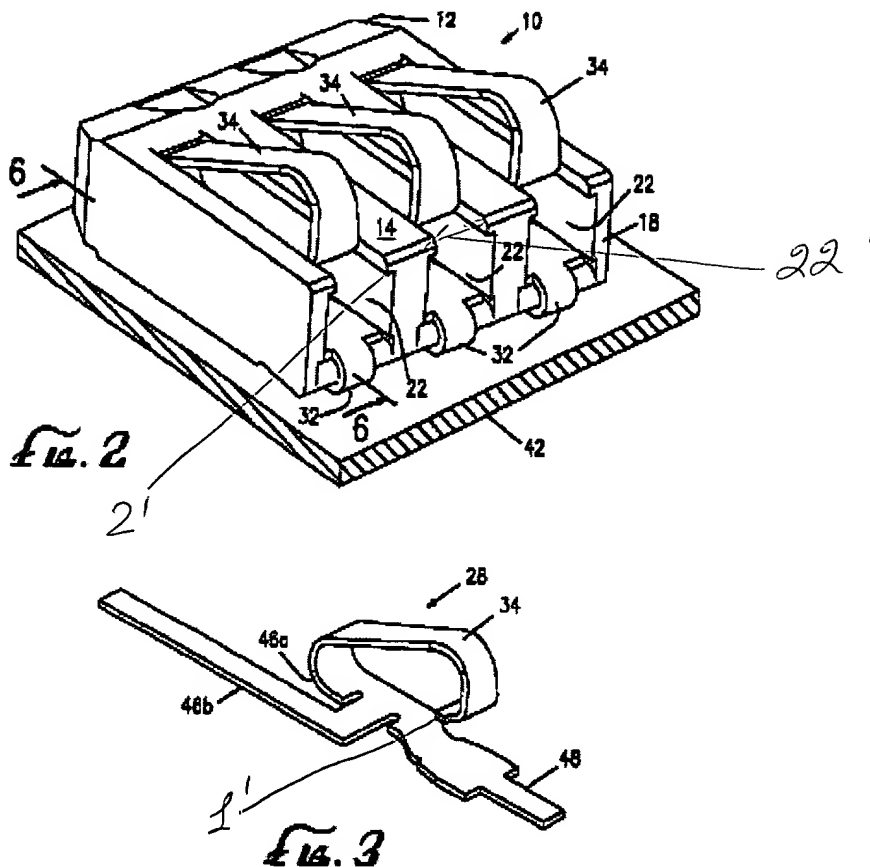
providing a housing 12, inserting a plurality of compression contacts 28 into channels 22 of the housing (see Fig.2), securing fusible elements to each of the contacts (terminal leads 40 are soldered to leads 46 and 47, see Col.5, lines 44-47), and preloading distal ends (not marked, a low part of a tab portion 34, see Figs. 2-4) of the contacts with an associated projection of the housing.

Kwait does not discuss the contacts preloaded but includes the structure that provides it, such as **ears** (1') on the distal end of a portion 34 and **shoulders** (2') on the top of the compartment 22 and top wall 14 (see Figs. 2 and 3 in the attachment 1).

**In regard to claim 30**, the contacts are orienting in the same direction (see Fig. 4).

**In regards to claim 32**, the contacts are compressed to insert a tab 34 into associated opening 22' in the housing formed by shoulders 2' (see Figs. 2 and 3 of <sup>attached drawing)</sup> ~~an attachment~~ 4):

*Attachment 1*



### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 2 and 6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (5891591).

**In regard to claim 2**, Suzuki discloses the instant invention substantially except for a fusible element secured to the mounting portion, but Suzuki discloses that the connector mounting on a surface of a PCB (see Col. 2, lines 21-23). It would have been obvious to attach **the mounting portion 22-22a** of the contact 20 to the PCT by commonly use method as soldering that comprising a fusible element.

**In regards to claim 6**, Suzuki discloses the instant invention substantially, except for the contacts are disposed at a pitch of 1 mm. It would been obvious to one having ordinary skill in the art at the time the invention was made to dispose the contacts with a pitch of 1 mm, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesh*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

**Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (5891591) in view of Reisinger (5863210). Including the instant invention substantially, Suzuki lacks a vacuum pickup cap. Reisinger teaches a cup 40 (mounting brackets) for a vacuum pickup (see Claim 1). Therefore and for the reason mention above, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the structure of Suzuki so as to include the vacuum cap of Reisinger.

**Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (5891591) in view of Wilmsmann nee Sudmoller (5951303). Suzuki discloses the instant invention substantially, except for neighboring contacts are oriented in opposite directions in an alternating manner. Wilmsmann nee Sudmoller shows neighboring contacts (12,13) and (12', 13') are oriented in opposite directions in an alternating



manner (see Fig. 3) in order to be closely spaced apart on the housing for miniaturization. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the structure of Suzuki so as to include the orientation of neighboring contacts in such manner as teaches by Wilmsmann nee Sudmoller in order to be closely spaced apart on the housing for miniaturization of the device.

**Claim 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (5891591) in view of Castaneda et al. (5655913). Suzuki discloses the instant invention substantially, except for the contacts are disposed in a staggered arrangement. Castaneda shows contacts 102 and 104 are disposed in a staggered arrangement in order to reduce shorting. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the structure of Suzuki so as to include the contacts are disposed in a staggered arrangement taught by Castaneda in order to reduce shorting.

**Claim 16** is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (5891591) in view of Lemke et al. (6241535).

Suzuki discloses a connector comprising:

a housing 10 having a plurality of openings 11b defined therein and extending through the housing,

a plurality of compression contacts 20 extending through the housing and exhibiting a preload (see Col. 2, lines 24-29), each of the contacts a mounting tab 22a extending through a respective one of the openings.

However, Suzuki lacks a plurality of fusible elements, each secured to a respective one of the mounting tabs so that the fusible element secures the associated contact to the housing.

Lemke discloses a plurality of fusible elements 35 securing to a respective one of the mounting tabs of contacts 28 (see Figs. 4-5, and Col. 4, lines 15-21) so that the fusible element **prevents removal** of the contact from the housing (Abstract, last line). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made and for the same reason to modify the structure of Suzuki so as to include the fusible elements, solder balls, of Lemke.

**Claims 16-20 and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwiat et al. (5746626) in view of Walkup et al. (5989049).

**In regard to claims 16 –18**, Kwiat discloses a housing 12, a plurality of compression contacts 28 extending through the housing and exhibiting a preload (see Figs.2 and 3), a plurality of openings defined and extending through the housing, each of the contacts comprising a mounting tab extending through the openings (see Col.4, lines 44-49).

Kwait does not discuss the contacts preloaded but includes the structure that provides it, such as **tabs** (1') on the distal end of portion 34 and **shoulders** (2') on the top of the compartment 22 and top wall 14 (see Figs. 2 and 3 in the attachment 1).

However, Kwiat lacks to discuss a plurality of fusible elements each secured to a respective one of the contacts. **Walkup teaches an alternative way to attach the contacts** - a fusible element (solder body –solder ball) 79 secured (solderably attached)

to a soldering tail 76 of a contact 7 and is then soldered to a PCB 9. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the solder ball of Walkup in structure of Kwiat so as to include the solder balls (fusible elements) of Walkup to provide a connection between the contacts and PCB.

**In regard to claim 19**, the housing comprises a retention structure 2' (see attachment 1, Fig. 2).

**In regard to claim 20**, each contact 28 includes a medial section (not labeled, an area abuts a wall 16), a mounting portion 32, and a compressive mating portion 34 having a distal end, wherein the retention structure 2' (see attachment 1) engages the distal ends (not labeled, lower part of mating portion 34) to preload the contacts (see Figs. 1 and 2).

**In regard to claim 22**, Kwiat discloses the contacts are oriented in the same direction.

**Claim 23** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kwiat (5746626) in view of Walkup et al. (5989049), as applied to claim 16 above, and further in view of Castaneda (5655913). Kwiat discloses the instant invention substantially, except for the contacts are disposed in a staggered arrangement. Castaneda shows contacts 102 and 104 are disposed in a staggered arrangement in order to reduce shorting. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the structure of Suzuki so as to include the contacts are disposed in a staggered arrangement as taught by Castaneda in order to reduce shorting.

**Claim 24** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kwiat (5746626) in view of Walkup et al. (5989049), as applied to claim 16 above, and further in view of Reisinger (5863210). Kwiat discloses the instant invention substantially, except for a vacuum pickup cap. Reisinger teaches a cup 40 for a vacuum pickup (see Fig. 2 and 3, and claim 1). Therefore and for the same reason, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the structure of Kwiat so as to include the cap of Reisinger.

**Claim 29** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kwiat et al. (5746626) in view of Wilmsmann nee Sudmoller (5951303). Kwiat discloses the instant invention substantially, except for that neighboring contacts are oriented in opposite directions in an alternating manner. Wilmsmann nee Sudmoller shows neighboring contacts (12,13) and (12', 13') are oriented in opposite directions in an alternating manner (see Fig. 3) in order to be closely spaced apart on the housing for miniaturization. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the structure of Kwiat so as to include the orientation of neighboring contacts in such manner as teaches by Wilmsmann nee Sudmoller in order to be closely spaced apart on the housing for miniaturization of the device.

**Claim 31** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kwiat et al. (5746626) in view of Castaneda et al. (5655913). Kwiat discloses the instant invention substantially, except for the contacts are disposed in a staggered arrangement. Castaneda shows contacts 102 and 104 are disposed in a staggered

Art Unit: 2833

arrangement in order to reduce shorting. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the structure of Kwiat so as to include the contacts are disposed in a staggered arrangement taught by Castaneda in order to reduce shorting.

**Claim 33** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kwiat et al. (5746626) in view of Reisinger (5863210). Including the instant invention substantially, Kwiat lacks a vacuum pickup cap. Reisinger teaches a cup 40 (mounting brackets) for a vacuum pickup (see claim 7). Therefore and for the reason mention above, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the structure of Kwiat so as to include the vacuum cap of Reisinger.

**Claim 34** is rejected under 35 U.S.C. 103(a) as being unpatentable over Wilhite (5338231) in view of Lemke et al. (6241535). Wilhite discloses an electrical connector 10, comprising:

A housing 12 having a retention structure 49 and plurality of channels 16, a plurality of openings formed therein (not marked, see Fig. 4 and Col.4, lines 1-5),

A plurality of preloaded (Col. 3, line 11) compression contacts 14 with each mounted in the respective channel, each contact comprising:

A medial section 26,

A mounting portion 28 extending from one end of the medial section and having a mounting tab 34 (see Fig. 4), the mounting tab extending through a respective one of the openings (not marked, see Fig. 4 and Col.4, lines 1-5), and

A compressive mating portion 30 extending from another end of the medial section and having a distal end 32, wherein the retention structure of the housing engages the distal ends of the compressive mating portions of the contacts to preload the contacts (Col. 3, line 11). However, Wilhite does not disclose a plurality of recesses and that each of the openings extending between a respective one of the channels and respective one of the recesses.

Lemke teaches a well-known alternative way **to attach** a contact mounting tab 76, which extending through a respective one of openings 64, to a substrate 54 (connector) by using solder a ball 74, which needs a recess 70 to place the solder ball (see Fig.4). Therefore, it would have been obvious to one of ordinary skill in the art to at the time the invention was made to utilize the well-known alternative way **to attach** the contact by using the solder ball, as taught by Lemke, in the structure of Wilhite; also, when Wilhite is modified by Lemke, each of the openings extending between a respective one of the channels and respective one of the recesses, as claimed.

**In regard to claim 35**, Wilhite modified by Lemke discloses a plurality of fusible elements 74, wherein each being secured to the mounting portion of a respective one of the contacts (see Fig. 4).

**In regard to claim 36**, Wilhite modified by Lemke discloses that each of the fusible elements 74 is positioned at least in a part within a respective one of the recesses 70 (see fig. 4).

**In regard to claim 37**, Wilhite modified by Lemke discloses the housing comprises a plurality of projections 68 each located within a respective one of the

openings 64, and each projection securely engaging a respective one of the mounting tabs 76 (see Fig. 4).

### ***Response to Arguments***

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that **the features** upon which applicant relies (i.e., Applicant's arguments on page 5 that the leg portion 21c in Suzuki reference do not extend through an opening in the housing) are not recited in the rejected claim(s).

Although the claims are interpreted in light of the specification, **limitations from the specification are not read into the claims**. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Also, in regard to the Applicant's arguments (same page) that Suzuki does not teach or suggest that the housing engaging the mounting tab so that a contact is retained by the housing, Examiner disagrees. Suzuki discloses (Col. 2, lines 10-18) a latch portion 22a to be fixed in the corresponding cavity in the housing.

Applicant's arguments regarding Lemke and Walkup references with respect to claim 16 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Larisa Z Tsukerman whose telephone number is (703)-308-6038. The examiner can normally be reached on Monday through Friday from 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A Bradley can be reached on 703-308-2319. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-308-7722 for regular communications and (703)-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-0956.

L.T.  
January 10, 2003



THO D. TA  
PRIMARY EXAMINER